

WHAT IS CLAIMED IS:

1. A camera capable of white balance correction comprising:

an image pickup optical system;

5 an image sensor for receiving light from an object through this image pickup optical system;

a three-primary-color detection section for detecting three-primary-color signals based on the output of the image sensor;

10 a matrix processing section for calculating two color difference signals from the three-primary-color signals;

a visible light brightness detection section for detecting visible light brightness by the output from said three-primary-color detection section or by a photometric section having as an automatic camera;

15 an infrared light detection section for detecting luminosity of infrared light; and

20 an artificial light detection section for calculating the ratio of artificial light and natural light from the output of said visible light brightness detection section and the output of said infrared light detection section,

25 wherein a correction range for performing the white balance correction is obtained based on the ratio of artificial light and natural light calculated by said artificial light detection section, and the white

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balance correction is performed when the two color difference signals are within said correction range.

2. A camera capable of white balance correction according to claim 1, further comprising:

5 a determining section for determining the kind of artificial light source from said two color difference signals; and

10 a correspondence section for calculating a correction limit value to make correspondence based on the determination result of the kind of artificial light source,

wherein the quantity of white balance correction of said two color difference signals is limited by said correction limit value.

15 3. A camera capable of white balance correction according to claim 1,

20 wherein said infrared light detection section can also be used as a remote control light detection section for detecting a light emitted from a remote controller for remote-controlling the camera.

4. A camera capable of white balance correction comprising:

an image pickup optical system;

25 an image sensor for receiving an object light through the image pickup optical system;

an RGB detection section for detecting R, G, and B signals corresponding to three primary colors from said

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image sensor;

a matrix processing section for calculating a brightness signal (Y) and color difference signals (R-Y, B-Y) from the R, G, and B signals;

5 a visible light brightness detection section for detecting visible light brightness by the output of said RGB detection section or by a photometric section comprised in a separate element;

10 an infrared light detection section for detecting infrared light; and

15 an artificial light detection section for calculating the ratio of artificial light and natural light from the output of said visible light brightness detection section and the output of said infrared light detection section,

20 wherein a correction range for performing the white balance correction is obtained based on the ratio of artificial light and natural light, and the white balance correction is performed when the color difference signals (R-Y, B-Y) are in said correction range.

5. A camera capable of white balance correction according to claim 4,

25 wherein an RGB correction corresponding to the fluorescent lamp light is performed when the light source is determined to be a fluorescent lamp based on a visible light photometric value and infrared

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photometric value.

6. A camera capable of white balance correction which is a digital camera or video camera, comprising:

an RGB detection section of primary colors R, G,
5 and B;

a visible light detection section by the output of said RGB detection section or by a photometric section of separate element; and

an infrared light detection section,

10 wherein the degree of light of a fluorescent lamp is determined from visible and infrared lights, and the white balance correction of R, G, and B is performed, according to this degree of light of the fluorescent lamp.

15 7. A camera capable of white balance correction according to claim 6,

wherein the correction quantity is replaced according to the degree of fluorescence obtained from a membership function corresponding to the kind of the
20 fluorescent lamp.

8. A camera capable of white balance correction according to claim 6,

wherein the infrared light is detected by an infrared detection section for remote controller
25 detection.

9. A camera capable of white balance correction according to claim 4,

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wherein said detection of infrared light serves also as detection mechanism for a remote controller.

10. A camera capable of white balance correction comprising:

5 an image pickup optical system;

an image sensor for receiving an object light through the image pickup optical system;

a three-primary-color detection section for detecting three-primary-color signals based on the output of the image sensor;

a matrix processing section for calculating two color difference signals from the three-primary-color signals;

a visible light brightness detection section for detecting visible light brightness by the output from said three-primary-color detection section or by a photometric section having as an automatic camera;

an infrared light detection section for detecting the lightness of infrared light; and

an artificial light detection section for calculating the ratio of artificial light and natural light from the output of said visible light brightness detection section and the output of said infrared light detection section,

wherein a correction range for performing the white balance correction is obtained based on the ratio of artificial light and natural light calculated by

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said artificial light detection section, and the white balance correction is performed based on the white balance correction quantity.

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